REMARKS/ARGUMENTS

Claims 1-25 are pending in the application. Claims 1-18 are under active examination in the case. Claims 19-25 stand withdrawn from consideration. Reconsideration is respectfully requested.

The present invention relates to a process of for manufacturing a chopped strand mat by a wet technique.

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Applicants enclose copies of the two form 1449s submitted earlier by way of filed information disclosure statements, because the individual references in each list have not been initialed as considered by the Examiner. Accordingly, proper initialing of the two forms is respectfully requested.

Specification Amendments

The specification has been amended in order to introduce therein appropriate section headings. Entry of the amendments is respectfully requested.

Claim Amendments

Claim 1 has been amended in order to state positively that in the process of the present invention a dispersion of chopped strands in a white water is initially formed and that thereafter a sizing liquid is added to the dispersion in order to size the chopped strands of the dispersion. The sizing agent employed consists essentially of an organosilane, a film former and at least one agent selected from the group consisting of a plasticizer, a lubricant and an antistatic agent. Thereafter, the process is completed by the steps as originally claimed. Support for the limitation added to Claim 1 can be found on page 2, lines 18-24 and page 4,

lines 8-24. Accordingly, the amendments made to the claim do not introduce new matter into the case.

Minor amendments of form and language have been made to several other claims. None of the amendments are believed to have introduced new matter into the case. Entry of the amendments into the record is respectfully requested.

Claim Rejection, 35 USC 112, Second Paragraph

Claim 4 is believed to be in sufficient form as it is, because the film forming polymer materials that are employed in the present process are not novel materials, but in fact are known. As such, the molecular weights of the various copolymers are known so that the language that has been employed indicating the molecular weights would enable one of skill in the art to make the appropriate selection of polymer to function as a film formed in the process of the invention. The basis for the rejection is believed to have been overcome and withdrawal of the rejection of the claims is respectfully requested.

Claim Rejection, 35 USC 103

Claims 1-3, 5-7, 10, 11 15, 16 and 18 stand rejected based on 35 USC 102(b) as anticipated by Gaa et al, U. S. Patent 4,810,576. This ground of rejection is respectfully traversed.

The Gaa et al patent is germane to the present invention, because it shows a method of treating glass fibers and then forming a non-woven mat of the fibers from an aqueous dispersion containing the same. The fibers are treated with a composition that contains, as the water-soluble, ungelled polymer, one or more water soluble polyoxyethylene polymers that have an effective film forming molecular weight. In addition the composition contains one or more water soluble, dispersible and/or emulsifiable cationic lubricants, water soluble

emulsifiable or dispersible aldehyde-condensate-reactable, polymeric agent, one or more aldehyde-condensate-reactable coupling agents and a carrier (col 3, lines 56-67). The aldehyde-condensate-reactable polymeric agent can be a polymer such as polyacrylamide or polyamide, and the aldehyde-condensate-reactable coupling agents are selected from the likes of organosilanes, polyaminorganosilanes, mercapto-organo silanes and the like. In the treatment of the glass fibers, both the polymeric agent and the coupling agent that are reactable with the aldehyde-condensate are capable of reacting with each other and the aldehyde-condensate (col 4, lines 1-15). Accordingly, it is clear that the disclosure of organosilanes in the patent is in the context of its reaction as a coupling agent with both the polymeric agent and the aldehyde-condensate. There is no teaching or suggestion in the patent of the combination of an organosilane and a film former as a liquid sizing agent for the treatment of chopped strands as is required by the present claims. The cited Gaa et al patent therefore does not anticipate the invention as claimed and withdrawal of the rejection of the claims is respectfully requested.

Claim 4 stands rejected based on 35 USC 103(a) as obvious over Gaa et al, U. S. Patent 4,810,576 in view of Vinamul 8837. This ground of rejection is respectfully traversed.

Claim 4 is directed to a secondary aspect of the invention upon which patentability does not depend. Since the claim contains all of the limitations of Claim 1 upon which it depends, and since the neither of the references teaches or suggests a liquid sizing agent that must be based on an organosilane and a film-forming polymer, the combined references are not believed to have rendered the subject matter of Claim 4 obvious. Withdrawal of the rejection of the claims is respectfully requested.

Claims 8 and 9 stand rejected based on 35 USC 103(a) as obvious over Gaa et al, U. S. Patent 4,810,576 in view of Dolin, U. S. Patent 4,526,914. This ground of rejection is respectfully traversed.

Claims 8 and 9 are directed to a secondary aspect of the invention upon which patentability does not depend. The fact that the white water of a white water contains a thickening agent is not a discovery of the present invention. Accordingly, the viscosity limitations of the two claims is not a factor upon which patentability of the invention depends. Further, since the claims contain all of the limitations of Claim 1, and since the neither of the references teaches or suggests a liquid sizing agent that must be based on an organosilane and a film-forming polymer, the combined references are not believed to have rendered the subject matter of Claims 8 and 9 obvious. Withdrawal of the rejection of the claims is respectfully requested.

Claim 12 stand rejected based on 35 USC 103(a) as obvious over Gaa et al, U. S. Patent 4,810,576 in view of Lalwani et al, U. S. Patent 4,917,764. This ground of rejection is respectfully traversed.

Claim 12 is directed to a temperature range in which the heat treatment employed in the present process is specified. However, the actual temperature at which the heat treatment of the present process is conducted is not a feature which distinguishes the present invention over the prior art. Accordingly, withdrawal of the rejection of the claim is requested, particularly because it incorporates the limitations therein from Claim 1 which is believed to be distinguished over the primary reference.

Claims 13, 14 and 17 stand rejected based on 35 USC 103(a) as obvious over Gaa et al, U. S. Patent 4,810,576 in view of Hannes et al, U. S. Patent 4,112,174. This ground of rejection is respectfully traversed.

Claims 13, 14 and 17 are directed to secondary aspects of the invention upon which patentability does not depend. The critical feature of the present invention does not reside mass per unit area of the mat nor the number of filaments in a strand of the mat. Rather, the present invention is believed distinguished over the primary Gaa et al patent for the reasons

discussed above. Since the dependent claims depend on Claim 1, they too are distinguished over the combined prior art. Withdrawal of the rejection of the claim is requested.

It is now believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO.	SERIAL NO.
		257397US0PCT	10/505,166
LIST OF REFERENCES CITED BY APPLICANT		APPLICANT	
		Michel DROUX	
		FILING DATE	GROUP
		June 27, 2005	1714

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	4,810,576	03/07/1989	Peter C. GAA, et al.			
	AB	4,681,658	07/21/1987	Ed C. HSU, et al.			
	AC	4,461,804	07/24/1984	Donald L. MOTSINGER, et al.			
	AD	2,906,660	09/29/1959	G. P. HUNGERFORD, et al.			
	AE	3,849,148	11/19/1974	Chester S. TEMPLE			
	AF	4,112,174	09/05/1978	George Jonh HANNES, et al.			
	AG	4,183,782	01/15/1980	A. A. BONDOC			
	AH	4,361,465	11/30/1982	Roy R. GRAHAM			
	AI	4,455,343	06/19/1984	Chester S. TEMPLE			
	AJ	6,054,022	04/25/2000	Gregory S. HELWIG, et al.			
	AK	4,526,914	07/02/1985	Rick L. DOLIN			
	AL	4,917,764	04/17/1990	Steven S. LALWANI, et al.			
	AM	4,233,353	11/11/1980	Alfredo A. BONDOC, et al.			
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	AO					
	AP					
	AQ					
	AR					
	AS					
	AT					
	AU					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AV	"Mats, Reinforcing Glass Fiber", MIL-M-43248C, March 30, 1988, 8 pages
	AW	"British Standard Specification for E glass Fibre chopped strand mat for reinforcement of polyester and other liquid laminating system", BS 3496: 1989, 12 pages
	AX	K. L. LOEWENSTEIN, "The Manufacturing Technology of Continuous Glass Fibres", Glass Science and Technolog 6, Elsevier, 1983, 25 pages
	AY	Datasheet "VINAMULS 8837-8831, 2 pages
	AZ	Datasheet "VINAMULS 8100, 8120", Vinyl Products Ltd, 3 pages

☐ Additional References sheet(s) attached

Examiner	Date Considered

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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		Michel DROUX	
		FILING DATE	GROUP
		August 30, 2004	

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	4 626 289	12/02/86	HSU, Ed. C.			
	AB	2001-009834	07/26/01	PENG, Qinyun et al.			
	AC	6 291 552	09/18/01	DONG, Daojie			
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	AO	730 054	05/18/55	GB		NO
	AP	01 75204	10/11/01	WO		NO
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	
	AX	
	AY	
	AZ	

☐ Additional References sheet(s) attached

Examiner

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